

**AMENDMENTS TO THE SPECIFICATION:**

Page 15, amend the paragraph beginning at line 1 as follows:

The above analysis identifies that the lubricant 8 can be entrained into a sliding contact even when it slips against one of the solid surfaces. Four possible configurations of bearing movement are illustrated in Figure 3. Figure 3a illustrates a moving wetted surface 4 (e.g., data storage media) relative to a stationary non-wetted surface 6 (e.g., a data access head) corresponding to the infinitely long bearing illustrated in Figure 1. Figure 3b depicts the same bearing arrangement as Figure 3a but in this case non-wetting surface 6 moves relative to a stationary wetted surface 4. Figures 3c and 3d depict a bearing with the inclined surface 16 representing the wetted surface and the lower flat surface 18 being the non-wetted surface. In Figure 3c the non-wetted flat surface 18 moves relative to a stationary wetted wedge surface 16 and Figure 3d depicts the wetted wedge surface 16 moving relative to a stationary non-wetted flat surface 18. Lubricant entrainment and consequent load support occurs when the wetted, no-slip surface 4 moves relative to the bearing. Of the four examples illustrated by Figure 3 load bearing capacity is possible even when  $\tau_0 = 0$  in those cases depicted by Figures 3a and 3b in which movement of the surface 4 or 6 towards the converging zone results in entrainment of the lubricant 8. The no-slip boundary condition requires that  $u_1$  is some finite value with respect to the convergent zone, otherwise the right hand term in equation 12 and consequent pressure is zero, that is the bearing has negligible load bearing capacity.

Page 18, amend the paragraph beginning at line 9 as follows:

Figure 7 and Figure 8 illustrate an example bearing for use in a micromachine such as a micromotor with a rotor 20. The rotor 20, attached to a rotating shaft (not shown) forms the non-

wetting surface and is in the form of a flat circular flange made of stainless steel. The substantially non-wetting stator 19 is in the form of a circular thrust washer as shown in Figure 7. In this example the stator 19 is fabricated from silicon with the contact surface being defined by sinusoidal variations 22 in the circumferential direction as illustrated by the cross-sectional view shown in Figure 8 (shaped surfaces of silicon can be made by chemical-mechanical polishing (CMP)). The roughness of the stator surface is less than 0.002-micron root mean square roughness measured using an upper cut-off length of 1micron. More generally, the surface roughness should be less than 0.01 micron root mean square when measured with an upper cut-off length of 1 micron.